

A measure of bandwidth capacity or transmission speed. It stands for a billion bits per second.

---

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### **HyperText Markup Language (HTML)**

A standard language used to create hypermedia documents for the Web.

### **HyperText Transfer Protocol (HTTP)**

A protocol standard to provide communication between WWW clients and servers.

---

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### **Internet Service Provider (ISP)**

A company which provides other companies or individuals with access to, or presence on, the Internet. Most ISPs are also Internet Access Providers; extra services include help with design, creation and administration of World-Wide Web sites, training, and administration of intranets.

### **Information User (IU)**

Refers to a customer that uses Service Provider services over the ADN system.

---

J

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K

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### **Kilobits per second (Kbps)**

A measure of bandwidth capacity or transmission speed. It stands for a thousand bits per second.

---

L

[Top](#)

### **Local Loop**

Telephone connection between your home and Bell Atlantic's Central Office.

---

M

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### **Megabits per second (Mbps)**

A measure of bandwidth capacity or transmission speed. It stands for a million bits per second.

---

N-R

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S

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### **Service Provider (SP)**

Refers to an entity that provides end users with services.

### **Secure Socket Layer (SSL)**

A protocol designed by Netscape Communications Corporation to provide secure communications on the Internet. SSL is layered beneath application protocols such as HTTP, SMTP, Telnet, FTP, Gopher, and NNTP, and is layered above the connection protocol TCP/IP.

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### **Uniform Resource Locator (URL)**

The "address" that is used to specify a WWW server and home page. For example, <http://www.ieee.org/>, which indicates that the host's address is [www.ieee.org](http://www.ieee.org/).

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W

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### **World Wide Web (WWW)**

The network of servers on the Internet, each of which has one or more home pages which provide information and hypertext links to other documents on that and (usually) other services. Servers communicate with clients by using Hypertext Transfer Protocol (HTTP).

X-Z

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### Have a question or comment?

If you are interested in Bell Atlantic InfoSpeed Services, please call us at **1-877-525-ADSL** or send us an e-mail at [information.adsl@bellatlantic.com](mailto:information.adsl@bellatlantic.com) or see the InfoSpeed DSL Trials page.

If you would like to be added to our InfoSpeed DSL mailing list to receive information when service becomes available in your area, please select the state where you reside, then complete and submit the form:

- Delaware, New Jersey, Maryland, Pennsylvania, Virginia, West Virginia, Washington D.C.
- Connecticut, Maine, Massachusetts, New Hampshire, New York, Rhode Island, Vermont

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**BELLSOUTH**

FastAccess Home

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Introducing the

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Lightning-fast speed  
from the company you know

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You Can Get   
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**FASTACCESS****BELLSOUTH.net**  
*Your Neighbor on the Internet*

## **What Is It?**

### **What is FastAccess ADSL service?**

BellSouth.net FastAccess<sup>SM</sup> Service uses Asymmetric Digital Subscriber Line (ADSL) technology which provides high speed Internet access for your home or office using your existing copper telephone line - up to 50 times faster than traditional 28.8 modem speeds.

### **How fast is it?**

A FastAccess-equipped phone line and computer enable speeds up to 50 times faster than conventional (28.8 Kbps) modems (actual connection speeds may vary). The increased capability allows you to access large amounts of data in significantly less time.

For instance, the download time for a typical large Web site with many graphics at maximum rated speed:

Conventional modem: 1.15 minutes  
Using FastAccess: 1.5 seconds

And, you won't have to deal with busy signals or have to wait long periods of time during dial-up ... in fact there is no "dialing-up" because when your computer and FastAccess modem are on, you are **always connected**.

### **Is there a constant connection?**

Yes. When you log onto the Internet, the FastAccess modem maintains a constant connection. There is no dialing, so you won't even have busy signals. You won't be "bumped off" the Internet because of a few minutes' lapse in use. And don't worry - the monthly plans all include unlimited access, so there are no hourly charges for using FastAccess service!

### **Can I talk on my phone at the same time?**

Sure. Since BellSouth.net FastAccess service "piggybacks" on your existing copper phone line, you can talk on the phone (or send a fax) and be on the Internet at the *same time*! There is no impact to your FastAccess speed when you use your telephone.

### **Can it speed up telecommuting wait times?**

Absolutely. BellSouth.net FastAccess service allows you to connect to the Internet at virtually the same speed as workers in the office, eliminating a key disadvantage of telecommuting. FastAccess service allows you to download and upload files in a fraction of the time. The lightning-fast speed allows you to use your computer to work, rather than having it tied up with downloading.

### **What else can I do with FastAccess service?**

A lot! With its high speed, FastAccess service lets you participate in interactive sessions in ways you couldn't before. Advanced Internet activities like these are made faster and easier than ever:

- distance learning
- virtual reality
- high-speed interactive entertainment
- chat and newsgroups
- interactive games
- downloading files
- streaming real audio and video
- research

### **What kind of computer do I need?**

Installing FastAccess service requires:

- a 100 MHz (or faster) Pentium-based processor
- Windows 95 or Windows NT operating system
- 16 MB RAM
- 20 MB of available hard disk space
- an available slot on your computer for an Ethernet card

### **How does FastAccess ADSL compare with cable modems?**

For information comparing the two types of service, check out a recent [comparison](#) published by ZDNet.

### **How much does it cost?**

The monthly rate for unlimited BellSouth.net FastAccess service will be only \$49.95 if you are a subscriber to BellSouth Complete Choice<sup>®</sup> or Business Choice<sup>®</sup> telephone feature packages. When purchased by itself BellSouth.net FastAccess service will be \$59.95 per month. Because FastAccess service works over your existing BellSouth phone line, you can enjoy all of the advanced phone features BellSouth offers while you surf the Net. (If you would like more information about BellSouth Complete Choice<sup>®</sup>, go to BellSouth products and services area, where after entering your phone number, you will get information about Complete Choice<sup>®</sup> and other BellSouth products available in your neighborhood.)

When BellSouth.net FastAccess service is installed at your location a \$99.95 installation and activation fee and a \$199.95 customer equipment fee are required.

All BellSouth.net pricing plans include BellSouth's charges for connection to its local Internet network, and the Global Service Provider's charges for connection to the global Internet. More information, including details on the free 30-day money-back guarantee; is found on the Cost page.

**Where will BellSouth.net FastAccess Service be available?**

It is currently scheduled to become available in certain areas within the BellSouth 9-state service area, which includes: Alabama, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, and Tennessee. The first cities scheduled to receive the service are Atlanta, Jacksonville, Birmingham, New Orleans, Charlotte, Raleigh, and the Fort Lauderdale/South Florida area. See City Availability for more information. Or complete the FastAccess Qualification form to be notified by e-mail when the service is coming to your town. The availability and scheduled deployment of BellSouth FastAccess service are subject to regulatory approvals.

**What is the process to make a reservation for BellSouth.net FastAccess Service?**

- Submit FastAccess application form
- At the appropriate time, phone line technical characteristics will be reviewed
- You'll be contacted once your line qualification status has been determined
- If qualified, an installation date and time will be scheduled when the service becomes available in your area
- Installation by technician at your location includes: activate line, install wiring if necessary, install Ethernet card in PC, configure FastAccess Modem and BellSouth.net FastAccess service

**What else does BellSouth.net service offer?**

Additional BellSouth.net services include features like convenient access to your local area information, personal Web pages, direct Internet access with no advertisements to click through, access to universal chat rooms, inexpensive additional e-mail accounts and MegaSearch capabilities.

In addition, BellSouth.net service performance has been rated A+ by leading Internet analysts\*. BellSouth has been rated the nation's top local telephone service based on customer satisfaction by J.D. Power and Associates in 1996 and 1997.

**More Information on ADSL**

For more information on ADSL, check out The ADSL Forum and TeleChoice Reports.

\*As reported in ZDNet News dated Feb. 4, 1998.

**FAST ACCESS**

**BELLSOUTH.net™**  
Your Neighbor on the Internet

## Compare FastAccess

Time to Download a 3.75  
Megabyte Video Clip\* Min:Sec

- Faster than conventional dial-ups.
- More secure than cable connections.
- Portable.
- Standard.
- Best in the business.

14.4 Kbps dial-up modem:	35:33
28.8 Kbps dial-up modem:	17:47
33.6 Kbps dial-up modem:	15:14
56 Kbps dial-up modem:	09:09
64 Kbps ISDN:	08:00
128 Kbps ISDN:	04:00
1.5 Mbps FastAccess:	00:20

● **Faster than conventional dial-ups.** FastAccess ADSL service connects you directly to the Internet with practically no dial-up wait time. With speeds up to 50 times faster than conventional dial-up modems (28.8), FastAccess offers commercial-grade quality of access - you're on the Net in a flash. And once you're on, there's no competing with other users on the same bandwidth - you don't "share" your ADSL access with anyone else!

● **More Secure than cable Internet connections.** Your information on FastAccess is secure - your neighbors can't accidentally view your work.

● **Portable and versatile.** You can still use your computer to access the Internet through traditional dial-up methods too. If you're in a location that's not configured for FastAccess, you can still access your BellSouth.net account and the Internet through traditional phone modems. This is unlike cable service, which typically allows you access only through your cable TV connection.

● **Standard BellSouth is working to set national standards for high speed access with the Universal ADSL Working Group (UAWG).** Other working group members include Microsoft, Intel and Compaq.

● **Best in the business.** We've been the leader in communications for years, and continue to lead the way in bringing the latest technology to you. (Rated by J.D. Power and Associates as the top local phone service and received A+ rating from Internet service analysts.)\*\*

\*Sample times at maximum rated speeds - actual download times may vary. \*\*As reported in ZDNet News dated Feb. 4, 1998.



**FASTACCESS**

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## City Availability

Its Coming! FastAccess ADSL service is scheduled to be introduced to cities within the BellSouth service area in the coming months, beginning August 1998 (pending regulatory approvals). The first cities scheduled to receive FastAccess service are listed below. Click on the city link to see if FastAccess is scheduled to be available in your neighborhood:

**2000  
plan  
year  
1999**

- |   |                                |
|---|--------------------------------|
| ● <a href="#">Atlanta</a>                       | ● <a href="#">Jacksonville</a> |
| ● <a href="#">Birmingham</a>                    | ● <a href="#">New Orleans</a>  |
| ● <a href="#">Charlotte</a>                     | ● <a href="#">Raleigh</a>      |
| ● <a href="#">Fort Lauderdale/South Florida</a> |                                |

**Additional Cities.** As new cities are added to the schedule, we'll update this site. And if you fill out the [FastAccess qualifying form](#), we'll contact you by e-mail when FastAccess comes to your area!

If your city isn't yet listed on this schedule, please bear with us. We intend to make FastAccess widely available throughout the BellSouth service area (pending regulatory approval).

**Within the Area.** FastAccess ADSL is scheduled to be available *only* within the nine-state BellSouth Service area, which includes:

- |             |                  |
|-------------|------------------|
| ● Alabama   | ● Mississippi    |
| ● Florida   | ● North Carolina |
| ● Georgia   | ● South Carolina |
| ● Kentucky  | ● Tennessee      |
| ● Louisiana |                  |

**FASTACCESS**

**BELLSOUTH.net**  
Your Neighbor on the Internet

**Cost**

**Monthly Rate**

**\$49.95**

BellSouth.net FastAccess service is only \$49.95 per month for unlimited monthly usage if you are a subscriber to BellSouth Complete Choice® or Business Choice® telephone feature packages. This amount includes the use of all regular BellSouth.net features and support. (If you would like more information about BellSouth Complete Choice®, go to BellSouth products and services area, where after entering your phone number, you will get information about Complete Choice® and other BellSouth products available in your neighborhood.)

**\$59.95**

BellSouth.net FastAccess service is only \$59.95 per month for unlimited monthly usage when purchased by itself. This amount includes the use of all regular BellSouth.net features and support.

Your regular monthly telephone service charges are not included in these amounts.

**Installation** A one-time installation fee will be charged for configuring your computer and phone line for FastAccess service. The fee includes a \$199.95 equipment charge for the FastAccess modem and related equipment, and a \$99.95 installation charge for the FastAccess line activation and on-site installation.

**Guarantee** BellSouth.net offers a 30-day money-back guarantee on FastAccess ADSL service and equipment. We're confident in the unmatched speed and convenience of the service.

**30-Day  
Money-Back  
Guarantee**

**It's as easy as  
plugging in a  
line and you're  
on the Internet.**

**SOUTHWESTERN BELL**



Southwestern Bell

# ADSL



## Hit the "highway" without leaving home

It's one thing to cruise the information super-highway—it's another to hit the real highway at rush hour. But you need to get to the office if you want high-speed access to the network—don't you? What if you had a network connection at home as fast as the one at work? One that lets you use your phone AND computer on the same line? It isn't magic—it's a technology called **Asymmetrical Digital Subscriber Line (ADSL)**. We call it **FasTrak DSL**. And it's available now from Southwestern Bell.

## Related Products

- [Frame Relay](#)
- [ISDN](#)

## FasTrak DSL will:

- Provide ultra high-speed network accessibility from your home or small office
- Enable you to efficiently download large files, attachments and even Web pages from remote locations
- Provide constant connectivity to your Host LAN or your Internet Service Provider
- Work over existing lines, so there's no need to add new phone lines

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Southwestern Bell

How will it help me?

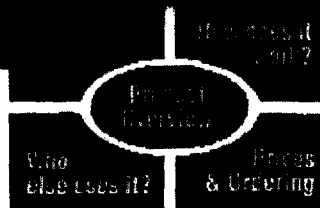
## Asymmetrical Digital Subscriber Line (ADSL)

Been there and wish you hadn't?

- The single-line-home-office dilemma: Do I talk on the phone or use the line for data?
- Cobwebs on the mouse: That small Internet file takes FOREVER to build on the screen.
- Work at Home or Wait at Home? Files from the office LAN seem to crawl across the network to you.
- Accessing the Internet or your LAN requires patience to wait out the busy signal.

It's a different story with *FasTrak* DSL's high-speed connectivity:

- Get data over voice capability--Talk on the phone and simultaneously use your data connection.
- Go to "warp speed" for Web browsing and LAN access: Speeds up to two to twelve times faster than ISDN and up to twelve to forty-eight times faster than analog modems.
- Download graphics and other large files at speeds comparable to a T-1 line (1.54Mbps).
- Enjoy dedicated connectivity with no busy signals or call set-up time.



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Southwestern Bell

## How does it work?

### Asymmetrical Digital Subscriber Line (ADSL)

It's morning rush hour in a large city. You and several thousand other commuters create heavy traffic on the inbound lanes of a major highway. On the other side of the median, much less traffic flows out of the city.

Imagine the traffic helicopter pilot's view of this scene—it's truly an "asymmetrical"—unbalanced—allocation of traffic on the highway. Similarly, **FasTrak DSL capitalizes on asymmetric allocation of bandwidth to deliver very large amounts of bandwidth to you.**

**FasTrak DSL** uses a new modem technology called **ADSL**. This technology converts existing twisted-pair telephone lines into digital access paths for multimedia and high speed data communications. **FasTrak DSL** uses a modem on each end of a twisted-pair copper phone line to transmit data asymmetrically, with large capacities downstream to you and smaller capacities upstream away from you. **FasTrak DSL** creates a high-speed, point-to-point 'virtual' connection from your premises to a designated network -- such as an Internet Service Provider (ISP) or a local corporate network (LAN).

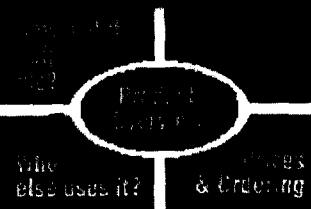
Since voice transmissions use only a small portion of the available frequency spectrum on your line, **FasTrak DSL** uses the leftover bandwidth to run a two-way digital connection that won't interfere with your phone conversations—even while you're using the network.

#### How does **FasTrak DSL** work?

A **FasTrak DSL** modem on each end of a twisted-pair telephone line creates three information channels -- a high speed downstream channel, a medium speed duplex channel, and a POTS (Plain Old Telephone Service) channel. The POTS channel is split off from the digital modem by filters, guaranteeing uninterrupted voice service, even if **FasTrak DSL** fails.

We offer two options for **FasTrak DSL**:

- one with up to 384 Kbps both downstream and upstream
- one with up to 1.5 Mbps downstream and up to 384 Kbps upstream





Who else uses it?

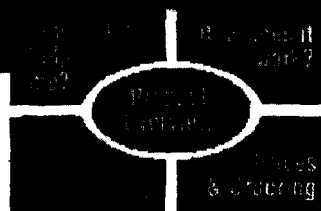
## Asymmetrical Digital Subscriber Line (ADSL)

"What good is it to telecommute if I can't get my work done?!"

"This'll NEVER fly!" As a structural engineer, Mary Anne relied on the company LAN for the specifications and data she needed to design appropriate systems for her clients. Working at home a couple of days a week seemed like a good idea—until she tried downloading a sizable spreadsheet to her PC at home. Mary Anne's "wait" time held hostage her "work" time—her phone line and her PC were tied up with the download. Her multi-megaHertz workstation munched small bits of data from the network while she resorted to paper and pencil—and grew more frustrated by the minute.

With *FasTrak* DSL, however, Mary Anne can download from the company LAN in big bites up to 1.5 Mbps—and still use the phone line for conversations. She uses the spreadsheet to complete her client's system design and then writes up the system description. Using the "upstream" capacity of up to 384 Kbps, Mary Anne sends the resulting text file to her client in an e-mail and back to the company LAN as an archive—at the same time she leaves a voice message telling the client that the e-mail will soon arrive. *FasTrak* DSL helps her make telecommuting a productive reality benefiting Mary Anne, her company, and her client.

**Press release on Shell Oil's trial use of ADSL: Shell Oil "Test drives" Southwestern Bell's ADSL**



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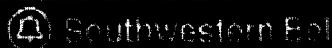
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## Prices & Ordering

### Asymmetrical Digital Subscriber Line (ADSL)

#### Where is *FasTrak* DSL available?

Right now, Southwestern Bell is offering *FasTrak* DSL service in Austin, Texas on an experimental trial basis. After the Austin trial concludes, we plan to offer *FasTrak* DSL in additional locations. We'll announce those locations on this Web site as soon as possible.

#### To place an order, if you're in Austin, Texas:

Your Southwestern Bell account team can help you put *FasTrak* DSL to work--so you can start cruising the information super-highway without backing out of your driveway. For more information if you live in Austin, please call 1-888-SWB-DSL1 (1-888-792-3751).

#### Do I need any expensive equipment?

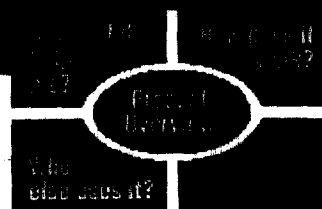
You'll need a *FasTrak* DSL modem, but this technology works over your existing phone lines. That keeps installation costs to a minimum. Initially you'll need to use Alcatel modems for the Austin trial of *FasTrak* DSL; you can purchase the modem from Southwestern Bell or eventually from a third party.

#### We offer two options for *FasTrak* DSL:

- one with up to 384 Kbps both downstream and upstream
- one with up to 1.5 Mbps downstream and up to 384 Kbps upstream

#### How long will it take to get it?

Typical time frames to install *FasTrak* DSL service range from 5 to 17 days. We'll work with you to coordinate ordering your modem, connecting to a LAN or ISP, and delivery and installation of *FasTrak* DSL as well as making sure you have the necessary equipment.



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**PACIFIC BELL**

**Buckle up. The speed limit on the Info-bahn is going up again.**

Internet usage is growing at a phenomenal rate. Telecommuting from remote locations is growing even faster. And with this growth comes a demand for even faster connection speeds.

It's time for *FasTrak* DSL.

[Click here](#) for the latest news release about DSL.

*FasTrak* DSL (Digital Subscriber Line) is a new digital service developed by Pacific Bell that allows you to connect to the Internet, or to your company's LAN, at speeds up to 50 times faster than a 28.8 modem—over regular copper phone lines—right from your home, home office or small business.

And to save you even more time, *FasTrak* DSL offers data over voice capability—so you can talk on the phone and use your data connection at the same time.

*FasTrak* DSL—the fastest way to communicate from your home, home office or small business.

- [Applications](#)
- [Equipment Requirements](#)
- [Network Diagram](#)
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Starting a new business?  
Our **New Business Start-Up Kit** has all the basics you should know before you put out the welcome mat.

**stories**

Everyone has a story. Here's your chance to tell yours. Post your story of how you use a Pacific Bell product or service.

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& data services

## Benefits and Features

*FasTrak* DSL gives you high-speed access to your corporate LAN or Internet service provider. It provides you with bandwidth of up to 1.544 mbps downstream (toward your home or remote location) and up to 384 kbps upstream (towards your host Internet service provider or corporate LAN).

*FasTrak* DSL gives you a constant connection to your destination at the click of an icon--eliminating the time spent waiting for call set-up and busy signals.

*FasTrak* DSL offers data over voice capability--allowing you to talk on the phone and use your data connection at the same time.

*FasTrak* DSL offers the proven reliability and quality of Pacific Bell.

## Applications

Initially, two *FasTrak* DSL speed packages are being made available, 1.544 mbps downstream with 384 kbps upstream OR 384 kbps in both directions.

Also during initial offerings, you will need to have your ADSL line associated with either a corporate LAN or a participating Internet service provider.

**Remote LAN Access** -- telecommuters have virtually the same LAN speed as on-site workers. *FasTrak* DSL downloads from your LAN at speeds up to 1.544 million bits per second and uploads data at 384 Kbps.

With *FasTrak* DSL, you continue voice conversations and LAN access at the same time, on your existing line, so you can be talking about the data while it's coming in. No time wasted waiting for downloads.

**Internet Access** -- faster access means increased productivity. *FasTrak* DSL downloads at speeds up to 1.544 million bits per second--50 to 100 times faster than a standard modem--and uploads at up to 384 Kbps.

And, the advanced DSL modem requires only one phone line -- allowing Internet access and voice conversation at the same time, for added convenience and enhanced productivity.

## More Information about ADSL

- [TeleChoice](#)
- [ADSL Forum](#)
- E-mail questions/comments to [adsl-info@pacbell.com](mailto:adsl-info@pacbell.com)

benefits and features

pricing and availability

service and support

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### Equipment and Other Service Requirements

*FasTrak* DSL requires a compatible ADSL modem at your home or remote location. Initially, these modems will be provided by Alcatel.

The ADSL modem is connected to your PC or Mac by either an Ethernet or an ATM25 Network Interface Card (NIC). A device called a splitter is the interface between your ADSL modem and the copper phone lines at your home or office. Pacific Bell will work with you to coordinate ordering, connecting to your LAN or Internet service provider, as well as delivery and installation of your *FasTrak* DSL line and equipment, including your ADSL modem and splitter.

The minimum computer requirements for *FasTrak* DSL are:

- 486 or better PC (Pentium recommended)
- Mac68030 or better
- Windows NT work station and server
- UNIX work station (Sun and HP) Minimum of 8 mb RAM and 25 mb available on hard drive
- Windows 3.1, 3.11, '95 or better
- Mac System 7.0 or better
- Network InterfaceCard (NIC) in the personal computer

*FasTrak* DSL requires no new phone connections as it delivers high-speed data access over your existing POTS (plain old telephone service) line allowing you to use your voice line while maintaining your high-speed data connection.

You must be qualified to ensure that your access line meets *FasTrak* DSL specifications, which include maximum distance from your Pacific Bell central office of from 2 to 3 miles. Pacific Bell will check your line for you in advance of ordering *FasTrak* DSL.

To deliver megabit speed over standard phone lines, your corporate LAN or Internet service provider will need to be connected to the Pacific Bell ATM network.

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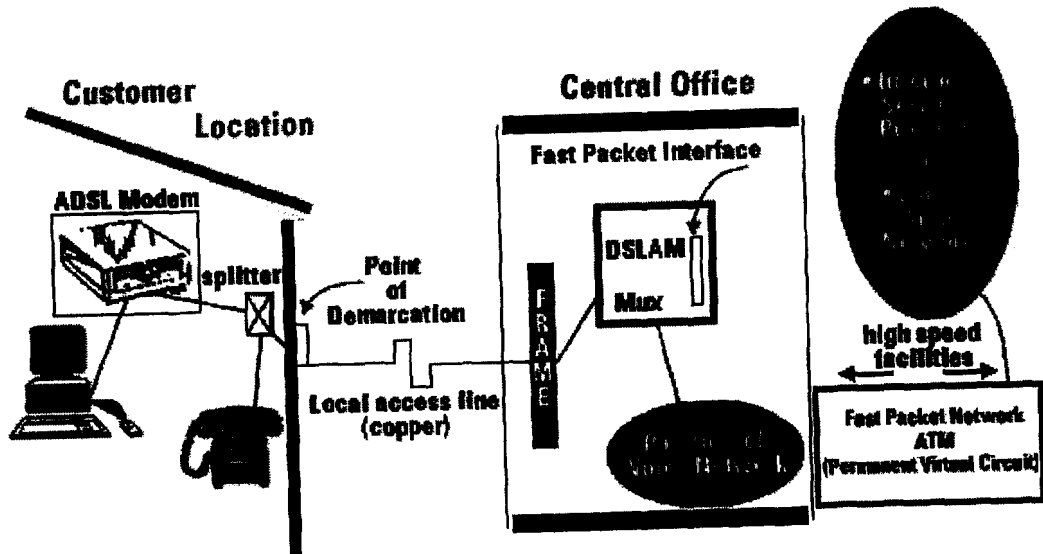
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FasTrak

**Find out if FasTrak DSL is available in your area.**

Pacific Bell is currently offering *FasTrak* DSL in selected areas as part of a market trial as approved by the California Public Utilities Commission. Participation in the market trial is voluntary. Customers may discontinue the service at any time and Pacific Bell may remove the service from market trial at any time. The trial is scheduled to conclude not later than August 31, 1998. The terms and conditions during the market trial may be different once *FasTrak* DSL service is offered under tariff. Due to facility constraints, Pacific Bell can not guarantee the availability of *FasTrak* DSL in all areas. *FasTrak* DSL is currently offered in areas of San Ramon, Danville, Walnut Creek, San Jose, Santa Clara, Sunnyvale, Burlingame, Los Altos, Mountain View, Palo Alto and Redwood City. DSL Service will be available in Pasadena and North Hollywood beginning in mid-April. Additional areas will be added in 1998.

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## **Frequently Asked Questions**

### **What is ADSL?**

ADSL refers to high-speed Digital Subscriber Line. It provides a dedicated digital circuit between a residence and a telephone company's central office over existing copper telephone lines. ADSL also supports two channels that can be used concurrently: one channel for analog voice conversations and another channel for digital data, video and graphic traffic.

### **Where will Pacific Bell ADSL be offered?**

Pacific Bell ADSL service was initially available as part of a limited commercial offering in 16 wire centers in Silicon Valley and select East Bay communities, and in two locations in Los Angeles. Pacific Bell hopes to offer ADSL services in a total of 87 central office facilities throughout California beginning mid-summer. These central offices represent a broad and diverse group of California households and businesses. Pacific Bell estimates that the service will be available to more than 4.4 million residential and 650,000 business customers.

### **What will the consumer experience be like?**

Our customers merely need to call Pacific Bell at 1-888-884-2DSL and we can take care of virtually everything. Pacific Bell representatives will work with customers to schedule line analysis, and discuss equipment needs and service options.

### **Minimum Computer and Hardware Requirements:**

- 486 or better PC (Pentium recommended) or a Mac 68030 or better
- Windows NT work station and server or a UNIX workstation
- 8 MB RAM and 25 MB available on hard drive
- Windows 3.1, 3.11, '95 or better or a Mac system 7.0 or better
- Network Interface Card (NIC)
- ADSL Splitter

### **What speeds serve what needs?**

The 384/128 and 384/384 services provide increased speed for Internet access and for telecommuters downloading files remotely. The 1.5/384 access provides an alternative speed for small offices, businesses and telecommuters with more intense usage requirements.

### **Are there restrictions to getting Pacific Bell ADSL service?**

Yes, due to the restrictions on the technology currently available, customers must live within about 17,500 feet of their central telephone switching office, and their telephone line must be qualified to carry the ADSL signal. On average, approximately 65 percent of customers serviced by ADSL-equipped central offices will qualify for ADSL service. In addition, host networks must be connected to Pacific Bell's Fast Packet Network service to ensure quality and throughput of Pacific Bell DSL connections.

### **Won't some of the customers living within that 17,500 foot radius also be restricted from getting Pacific Bell ADSL? If so, Why?**

Possibly. It depends on existing equipment and network configuration between the wire center and a given customer's house. California residents can call 1-888-884-2DSL for additional information.

### **What DSL configurations will you be offering?**

We are currently offering two speed packages; an asymmetrical configuration with up to 1.5 Mbps downstream and up to 384 Kbps upstream and a symmetrical service of up to 384 Kbps.

**What are the benefits of each?**

A 384/384 service provides a great increase in speed for small business users and others accessing the Internet and hosting a web site. It also provides increased speed for many telecommuters downloading files from the corporate office and using the world wide web. 1.5/384 access provides additional speed for small offices and others with more intense usage requirements.

**Are there any unique service limitations associated with DSL?**

Yes. Customers must be within approximately three miles of their central telephone switching office to receive the bandwidth benefits of DSL.

**Are industry standards in place for xDSL?**

Yes. The industry standard is discrete multi-tone (DMT). This is the type of ADSL technology being deployed by Pacific Bell.

**What is the UAWG?**

The Universal ADSL Working Group (UAWG), is composed of leading PC industry, networking, and telecommunications companies, working together to develop a set of contributions building on the present T1.413 standard intended to create quick deployment and adoption of Universal ADSL. With the goal of providing consumers with assurance that products and services will work together, the UAWG's work will complement current equipment deployment of full-rate ADSL and help to provide a seamless migration path from today's modems.

**Is Pacific Bell a member of the UAWG?**

Yes. Pacific Bell, through its parent corporation SBC Communications, Inc. is an active member of the UAWG.

**In terms of speed how does ADSL compare to ISDN?**

ISDN runs at 128 kilobits per second, while ADSL runs at speeds up to 1.5 megabits per second. For comparisons sake, this is 50 times faster than a standard 28.8 kbps modem. Together, these two technology offerings significantly bolster Pacific Bell's full line of broadband services to meet the needs of each individual customer from ISDN, T-1, Frame Relay, ATM and ADSL options.

**Key points:**

- We are not singling out DSL service. This new service will be part of our *FasTrak* product continuum, offering a higher bandwidth. These products will coexist for many years to come. *FasTrak* DSL services are not replacements for *FasTrak* ISDN, but offer optional higher speeds.
- Why would customers want *FasTrak* ISDN or analog modems when they could have *FasTrak* DSL services?
- The introduction of *FasTrak* DSL service is an example of how Pacific Bell continues to be the leader in offering a wide selection of state-of-the-art solutions. Our *FasTrak* product line offers a continuum of services designed to meet the different speed, application and price needs of our customers.
- Our products offer services to satisfy the needs of a wide range of users and applications from those using analog modems to those needing the higher performance of *FasTrak* ISDN at 128 Kbps and *FasTrak* DSL at either 384 Kbps or 1.5 Mbps.
- Customer needs will govern the service they select. For example, as many customers become more familiar with the Internet, they will continue to demand higher and higher bandwidth. Pacific Bell and ISPs will have to step up to this trend by providing networks capable of greater speeds.

**Will business customers replace their existing *FasTrak* DS1 (T1) service with *FasTrak* DSL?**

We don't believe so, although there may be some overlap of the services. There are clear technological differences: DS1 is 1.5 Mbps both ways, which is important to many business applications. DS1 is a proven technology. While our technology tests demonstrate that *FasTrak* DSL is very reliable, businesses



tend to rely on established technologies when business critical data is at stake. Also, DSL requires Pacific Bell *FasTrak* ATM Cell Relay Service access at the host site; DS1 is a dedicated point-to-point service.

**Why would customers want *FasTrak* Frame Relay or T-1 service when they could have *FasTrak* DSL services?**

The introduction of *FasTrak* DSL service is an example of how Pacific Bell continues to be the leader in offering a wide selection of state-of-the-art solutions. Our *FasTrak* product line offers a continuum of services designed to meet the different speed, application and price needs of our customers.

Our products offer services to satisfy the needs of a wide range of users from those using analog modems to those needing the higher performance of *FasTrak* services running up to and beyond 1.544 Mbps and above.

Customer needs and applications will be the primary criteria for selecting a high speed data service from the *FasTrak* group of high speed data offerings. Other factors will no doubt include: DSL availability and the investments in hardware and expertise that customers have already made to support their existing networks.

**Key points:**

- *FasTrak* Frame Relay and T-1 Available virtually everywhere in the Pacific Bell serving area. Excellent for Internet and corporate-computer-network access. Frame Relay is an excellent choice for enterprise networking where many points must interconnect with each other. *FasTrak* DSL Services limited availability. Simultaneous data over voice capability; no need for a second line. Excellent for telecommuting; and Internet and corporate-computer-network access where very high speeds are desirable and many sites interconnect with one host. Requires ATM at the host location.

**Will Pacific Bell ADSL affect customers' existing voice services?**

No. Pacific Bell ADSL is compatible with all of Pacific Bell's voice services for business and residential customers.

**What kind of equipment will customers need to subscribe to Pacific Bell ADSL?**

Pacific Bell will arrange for customers to purchase an ADSL modem, a "splitter" that divides voice and data traffic and an Ethernet network interface card that connects the modem to the PC. As other equipment becomes available, customers may use this equipment from other providers, as long as the equipment meets the interface and other technical specifications of Pacific Bell's ADSL offering.

**What are the customer equipment costs expected to be?**

Pacific Bell will make ADSL equipment available to its residential and business customers as part of a one-stop shopping experience. Monthly pricing plans for ADSL equipment will vary by DSL package.

Still have questions? Send them to [adsl-info@pacbell.com](mailto:adsl-info@pacbell.com).

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